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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,916	03/26/2004	Toshihiro Kinoshita	50024-031	6747

7590 11/30/2006  
MCDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER
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MIDKIFF, ANASTASIA

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/809,916	<b>Applicant(s)</b> KINOSHITA, TOSHIHIRO	
	<b>Examiner</b> Anastasia Midkiff	<b>Art Unit</b> 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>15 Sept 2006</u>  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent to Hosokawa et al. (USP# 6,280,861) in view of the Journal of Applied Physics article to Yu, et al. (15 Feb 2001).

With respect to Claims 1, 2, 8, 9, and 14, Hosokawa teaches an organic electroluminescent device, and method of its manufacture, comprising:

- a hole injection electrode, a hole injection layer, a light emitting layer, and an electron injection electrode in this order (Column 12, lines 61-62);
- wherein the hole injection layer includes:
  - a first hole injection layer made from a porphyrin compound (Column 15, lines 14-36); and,
  - a second hole injection layer made from a halide fluoronone compound, said fluoronone being a carbon-based halide (Column 15, lines 14-36).

Examiner notes that with respect to the limitation that second layer is formed by plasma chemical vapor deposition, this is a process by which a product is made, wherein the process does not impose any structural limitation on the product, and, as such, the

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process is not given any patentable weight (See MPEP 2113). Additionally, the use of plasma chemical vapor deposition to manufacture electroluminescent devices is known.

Hosokawa et al. do not specifically teach that the porphyrin compound is copper phthalocyanine.

Yu et al. teach that copper phthalocyanine (CuPc), absorbing not less than 10% of ultraviolet light having a wavelength shorter than 380 nm (Figure 2), is used as in hole-injection layers in light-emitting diodes enhances the hole injection from the electrode to the emissive polymer layer (Abstract, Lines 4-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ CuPc as the polymer of Hosokawa et al., to enhance hole-injection and decrease the voltage necessary to operate the device, as taught by Yu et al. (Abstract).

With respect to Claims 10-13, Hosokawa further teaches the first hole injection layer to have a thickness within the range of 5nm-15nm and a second hole injection layer to have a thickness in the range of 0.5nm-3nm (Column 15, lines 57-59).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 2, and 8-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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U.S. Patents to Mikami et al. (USP# 5,116,640) and Hsiao et al. (USP# 7,086,918) disclose the state of the art for plasma chemical vapor deposition in electroluminescent device manufacture.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anastasia Midkiff whose telephone number is 571-272-5053. The examiner can normally be reached on M-F 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASM  
11/24/06



EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER